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ABSTRACT

The document provides a guide for creating task analyzed materials for handicapped students. Ten steps are outlined: (1) select general area, (2) break into smaller components, (3) select target component, (4) write terminal goal for the students, (5) acquire a sequence, (6) task analyze the sequence, (7) establish entry skills, (8) establish the reading vocabulary, (9) write the program, and (10) try the program out and revise as needed. (SBH)

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WRITING PROGRAMS FOR HANDICAPPED STUDENTS

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WRITING PROGRAMS FOR HANDICAPPED STUDENTS

Flow Chart

SELECT GENERAL AREA

BREAK INTO SMALLER COMPONENTS

SELECT TARGET AREA

WRITE A TERMINAL GOAL

ACQUIRE A SEQUENCE

TASK ANALYZE THE SEQUENCE

ESTABLISH ENTRY SKILLS

ESTABLISH READING VOCABULARY

WRITE PROGRAM

APPEARANCE

INSTRUCTION

ASSESSMENT

TRY OUT PROGRAM

REVISE AS NEEDED

WRITING PROGRAMS FOR HANDICAPPED STUDENTS

Teachers often find themselves looking in vain for just the right materials for their students. For older handicapped students there is a deficit in finely task analyzed materials, especially in the area of Language Arts. There is an even greater shortage of well structured, remedial biology and history materials. For those teachers who have tried adapting regular education or remedial published materials and have had little success, there is yet another strategy--become a teacher-writer of materials.

Teachers who create their own programs find it to be time consuming, yet rewarding in the sense that they meet a specific need in their curriculum. The following is a guide for creating, from scratch, materials for handicapped students.

1. SELECT GENERAL AREA

In order to provide effective instruction to students, teachers will need well written materials. Too often published materials are not sufficiently task analyzed, contain inappropriate and irrelevant content, are not well organized, do not contain adequate assessment instruments, and do not teach for mastery.

The first step in writing a program is to select the general area where the curriculum is weak and where students' needs are not being fully met. For example, a teacher instructs in the areas of Math, Language Arts, Life Skills and U.S. History. The students have difficulty in Language Arts and the materials available are not adequate. The teacher decides to select Language Arts as the most pressing concern.

2. BREAK INTO SMALLER COMPONENTS

The teacher breaks the general area down into instructional components:

Language Arts

A. Oral Language
B. Word Attack
C. Comprehension
    1. Vocabulary
D. Composition
    1. Parts of Speech
    2. Spelling
    3. Capitalization
    4. Punctuation

Life Skills

A. Personal Hygiene
B. Money Management
C. Home and Family
D. Job

3. SELECT TARGET COMPONENT

From the various subdivisions, the teacher selects a target component on which to work. After reviewing the Language Arts component, for example, the teacher might select composition as an area where appropriate and effective materials are lacking.

Composition is still too broad an area around which to create materials for handicapped students, thus the teacher will find it necessary to select a target component such as capitalization.

4. WRITE TERMINAL GOAL FOR THE STUDENT

Having selected the target component, the teacher is now prepared to write a terminal goal for the students. This long term goal will determine the direction of the program. If the teacher keeps this terminal goal in mind as the program is being written, the teacher will be less likely to wander off task. A terminal goal for capitalization might be:

> Given a paper and pencil and a sentence dictation consisting of a variety of capitalizations, the student will correctly capitalize the sentences.

An example of straying from the terminal goal would be to require competencies in spelling or punctuation though these are not stated in the terminal goal.

5. ACQUIRE A SEQUENCE

The teacher should attempt to locate a published sequence that delineates the target component into smaller steps. If the published sequence can be adapted to better suit the teacher's style of teaching--so much the better. If the

teacher is unable to locate an appropriate sequence, various sources can be drawn upon from which to prepare and write a sequence.

An example of a sequence for capitalization is the following written by teachers from Idaho Falls, Idaho.

Capitalization (partial sequence, only)

A. Capitalize proper nouns
   1. Names of persons
   2. Names of pets
   3. Months of the year
   4. Days of the week
   5. Holidays; special events
   6. Geographical names
      a. Cities, towns, counties
      b. Countries
      c. States
      d. Compass directions; sections of the country and world
   7. Names of ships, planes, trains, monuments, awards, heavenly bodies
   8. Organizations, business firms, institutions, government bodies
   9. Historical events and periods
   10. Names of nationalities, races,religions
   11. Street names
   12. Brand names of products

B. Beginning of a sentence

C. Initials

6. TASK ANALYZE THE SEQUENCE

The teacher can now task analyze the sequence, or, if the sequence is already divided into small steps, "sandwiching" or grouping some skills may be necessary. In deciding the

degree to which the sequence will be task analyzed, the following points should be considered:

1. the familiarity of the student with the subject matter
2. the difficulty of the material
3. the reading level of the student
4. the student's skill level in that particular area

Students who learn at a slower rate will benefit from working in a program that has been task analyzed into very small steps. Programs for students who learn at a faster rate may also be divided into small increments with provisions made to skip exercises if the student has demonstrated mastery of those particular skills. Skipping over material the student has already mastered is called "contingency skipping" (Grossen,1977).

As an example, task analyzing the capitalization sequence for secondary Educable Mentally Retarded students involves breaking each step into 5 exercises: from a 100 word passage (1), the student is asked to identify, by circling, the names of people; next, from another 100 word passage (1a), the student is asked to correctly capitalize the names of people. The student goes through the same two steps with the names of pets. Using the same response format as the terminal goal,

the student then writes from dictation a 50 word passage, correctly capitalizing the names of people and pets. Review dictations are systematically introduced as part of the task analysis. Responses in the form of dictations are an integral part of this particular task analysis because they replicate the terminal goal.

Lessons			Unit Dictation	Review Dictation
Names of People	1	1a	A	I
Names of Pets	2	2a		

7. ESTABLISH ENTRY SKILLS

What skills must the students have before entering this self-styled program? If the teacher is writing math story problems that require knowledge of division and multiplication, the skills necessary for students entering the program might be: ability to read at the 2.5 grade level, mastery of multiplication and division processes, ability to write numbers legibly. If the teacher is writing a capitalization program, entry skills for the students might be: ability to spell basic sight words, ability to write the capital letters of the alphabet, ability to read at a 3rd grade level, ability to write legibly.

8. ESTABLISH THE READING VOCABULARY

Since most instructional programs require basic reading competencies, it is necessary for the teacher to devise a reading sequence. From this sequence, materials can be written for individuals with limited reading ability. Teachers may choose to follow either a sight word sequence or a phonetic sequence in writing materials. If the teacher chooses to use vocabulary from sight word lists, these lists will have to be acquired and studied by the teacher. An excellent source of sight words divided according to frequency of occurance into grade levels 1-6 is the Basic Elementary Reading Vocabularies by Harris and Jacobson (MacMillan). This, and books like it, can be used as a guide for writing materials. High interest, low vocabulary materials can be written by using words on these lists. The lists help distinguish words of high utility, which should be taught for permanent retention, from those needed for special content.

Checking the readability level of elementary sight texts will also give the teacher an idea of the kinds of words used and the length of sentences. With knowledge of the students' word recognition levels, the teacher can then select the level of words to be used in the program. Students' word recognition levels may be found by giving tests such as the

Woodcock, PIAT (AGS), WRAT (Psych. Corp.), or Spache Diagnostic Scale (California Test Bureau).

Some teachers may choose to use a phonetic sequence, incorporating some very basic sight words, as the guide for writing materials. This approach works well with students who have shown gains with phonetic reading instruction. To write a program based on a phonetic hierarchy, the teacher must both acquire a phonetic sequence and analyze the students' decoding abilities. Analyzing students' decoding skills may be accomplished by administering tests such as: Criterion Test of Basic Skills (Academic Therapy), Woodcock (AGS), California Phonics Survey (California Test Bureau), Botel Reading Inventory (Follett). Once the students' decoding levels are found, the teacher can write a program using words that do not go beyond the students' decoding abilities. A phonetic sequence selected by the teacher might be:

1. all consonant sounds
2. all short vowell sounds
3. 2 letter blending vc, cv
4. 3 letter blending cvc
5. consonant blends ccvc, ccvcc, cccvcc
6. -ff, -ll, -ss, -ck
7. 2 syllable words
8. -ng,-nk,sh,y/ī/,th,ch,wh,tch,qu
9. -ed,y/ē/,ie/ē/,-le (cable)
10. ee,ea,oa,ai,ay
11. ou,ow
12. aw,au
13. oi,oy,ie/ī/
14. a-e,e-e,i-e,y-e,o-e,u-e

15. ow/ō/,ou/ū/
16. a(baby), e(even), i(tidy), o(open), u(tulip, u(music)
17. old, -ind, s/z/
18. ei/ā/, ea/ā/
19. ar, ir, ur, ar
20. ue/yu/, ue/ū/, ew/yū/, ew/ū/
21. oo(good), u(push)
22. ea/ĕ/, ey, ch/k/, ph, -dge
23. ough/ŭf/, augh/ăf/
24. hard and soft c and g
25. eigh/ā/, igh/ī/, ough/ō/
26. -mb, kn, wr
27. -alk, -olk, -alf
28. tion/shŭn/, tion/chŭn/
29. sion, ch/sh/, eu/yū/, ei/ē/

By analyzing the students' decoding test scores, the teacher can select, by referring to the phonetic sequence, the word patterns that should and should not be used in writing the materials. If the students can decode most words through line #19 (above), yet have trouble with lines #13,17, and 18, the teacher will use word patterns through #19, excluding lines #13, 17, and 18, in preparing the program. The exception is if the teacher chooses to preteach these skills (lines #13,17, and 18) before students begin the program. Word patterns beyond line #19 would not be included in the program unless they happen to be basic sight words that the student already knows.

It should be kept in mind that these two approaches, sight and phonetic, are based on the assumption that the teacher is writing materials for purposes other than teaching reading.

If the teachers' primary purpose is to write a program or materials that teach reading, the methods used will be slightly different than the methods used for writing content or specific skills programs. Materials designed to teach reading, whether sight or phonetic, use vocabularies that must be carefully programmed, becoming more difficult as the student progresses. In materials that primarily teach skills other than reading, learning is also cummulative, but it is the specific skill or content being taught, and not the reading level, that progresses in difficulty.

9. WRITE THE PROGRAM

The teacher is now prepared to begin writing the program. This is the creative part for the teacher and deals with the basic issues: how will the program look and how will it work?

Appearance

The program or material must look clean and organized. A simple, uncluttered appearance will allow a handicapped student greater ease in completing the exercises. Margins, type and spacing should be carefully considered as well as consistency of the visual format from page to page. A handicapped student will do better and require fewer daily directions if the format is consistent from day to day.

Instruction

Instructionally, the program must be sound. Directions must be explicit yet simple, with appropriate examples and non examples. Content or specific skills must be organized according to a hierarchy:

1. simple to complex: in capitalization, teach "I" before names of countries
2. frequent to less frequent: in punctuation, teach "." before ":"

If the program is to be long or complex, the teacher may choose to divide it into sections, units, strands, etc. to simplify organization and charting.

To ensure students' retention of the material, drill and maintenance activities should be systematically placed throughout the program. It is important that maintenance exercises use the same type of response format as the terminal goal. For example, the capitalization terminal goal requires taking a dictation. Maintenance checks should also be in the form of a dictation.

Specific mastery criterion should be established for each activity or lesson. For example, a capitalization lesson may require the student to capitalize 18 out of 20 capitalizations before going further. On a review dictation

the student may be required to write a dictated passage of 50 words, correctly capitalizing 9 of the 10 possible capitalizations. Mastering skills or content on the road to the long term goal ensures retention of the material.

Correction procedures should be established in the event a student does not meet the mastery criterion on a given exercise. This may be accomplished by having the student re-do the exercise, complete supplementary materials, etc. The correction procedure should be built into the program and not tacked on.

In designing and writing programs, the teacher has the opportunity to make the materials interesting and relevant. The use of local landmarks and names immediately draws the attention of the students, as does a bit of humor. Where only content is being taught, pictures, graphs, or audio-visuals add appeal to the program.

Student interest or lack of interest in learning varies with the age and background of the student, the student's relationship with peers, the attitude of the teacher, and the materials used to instruct the student. Questions such as the following must be dealt with by the teacher: Will the student be required to read exercises in order to complete tasks (e.g. Steck-Vaughn materials)? Will it be a taped

program that requires listening and writing skills (e.g. Educational Systems materials)? Will it be a program that requires the student to respond verbally(e.g. The Reading Key,C.C. Publications)? Perhaps the teacher prefers to write a program that combines listening, responding, reading, and writing as in the SRA Comprehension Series. As a further example, in the capitalization program the students will read 100 word passages, correctly capitalizing 20 possible words, and will write dictations during systematic short term mastery checks. In this program the student will be required to both read and write.

Assessment

In order to find out what skills the student does and does not have, the teacher will have to devise an assessment tool. A pre-test can answer the question: Does the student have the necessary reading and writing skills, etc. to begin working on page 1 of the program? If not, what instruction must the teacher provide the student so that s/he may enter the program? A placement test will define at what stage of the program the student will begin. And a post-test will tell the teacher if the student has learned the material.

It is possible for one test to assess all three of these

areas--entry skills, placement, and mastery. The test should be written as simply as possible containing exercises that approximate the terminal goal.

On-going assessment is important as a means of measuring and analyzing progress through the program. These maintenance checks or tests measure the students' mastery of skills and content at various steps in the program and, consequently, the students' progress toward the terminal goal.

Record Keeping

The teacher will find that designing a record keeping system greatly enhances the organization of the program and ability to quickly analyze student progress in the program. The system should be simple enough to be charted by the students.

10. TRY IT OUT AND REVISE AS NEEDED

The teacher is now prepared to put the program together in its final form and try it out. As time goes by, revisions can be made as appropriate and a polished, relevant, and interesting program will emerge.